



E. MARTINIAN 2-54

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FIG. 1

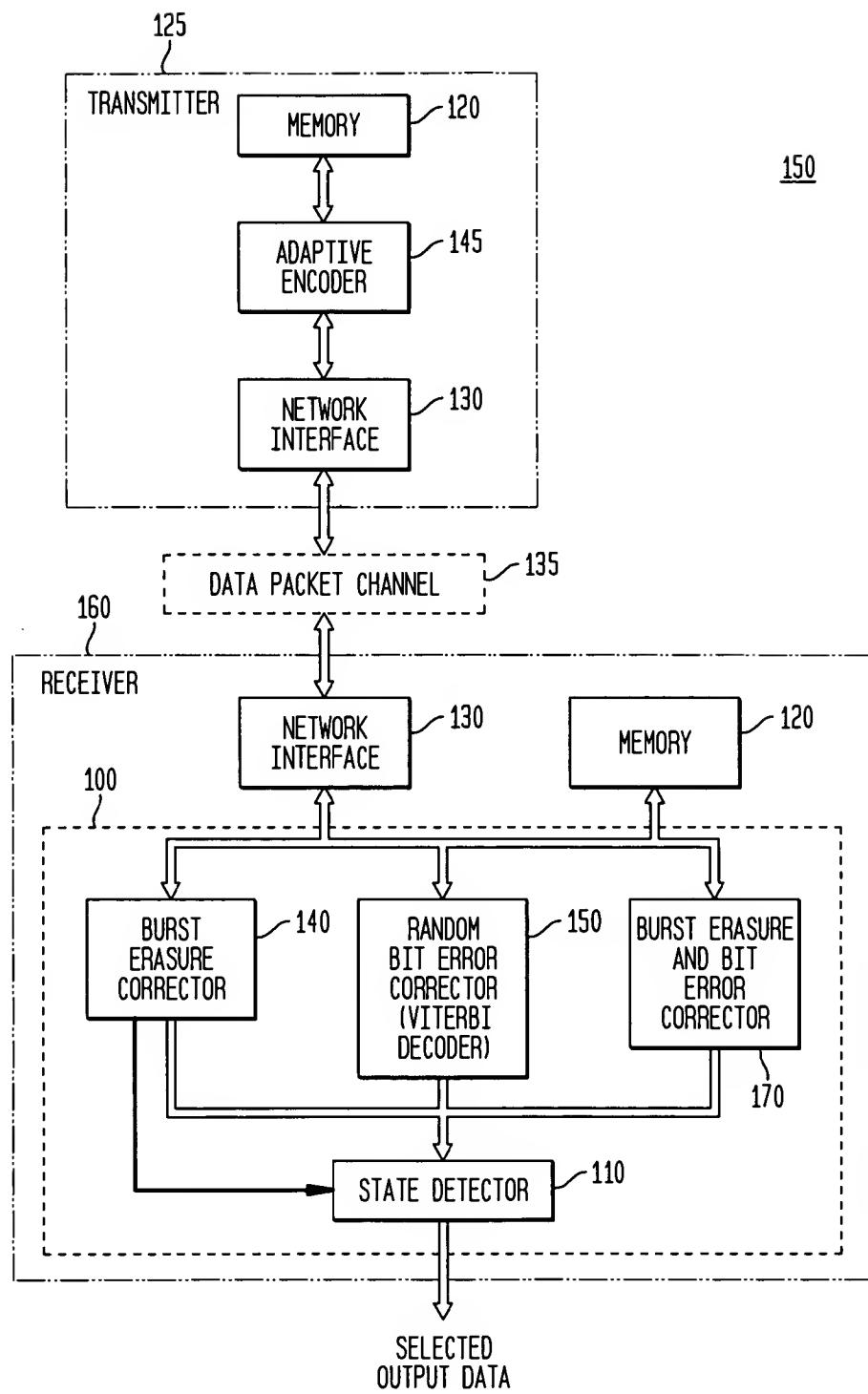


FIG. 2

| | | |
|------------------|--------|--------|
| $\hat{y}[i] =$ | x[i] | x[i-3] |
| $\hat{y}[i+1] =$ | x[i+1] | x[i-2] |
| $\hat{y}[i+2] =$ | x[i+2] | x[i-1] |
| $\hat{y}[i+3] =$ | x[i+3] | x[i] |
| $\hat{y}[i+4] =$ | x[i+4] | x[i+1] |
| $\hat{y}[i+5] =$ | x[i+5] | x[i+2] |
| $\hat{y}[i+6] =$ | x[i+6] | x[i+3] |
| $\hat{y}[i+7] =$ | x[i+7] | x[i+4] |

FIG. 3

| | | | | |
|----------------|--------------------|--------------------|--------------------|--|
| $\hat{y}[0] =$ | x ₀ [0] | x ₁ [0] | x ₂ [0] | 0 |
| $\hat{y}[1] =$ | x ₀ [1] | x ₁ [1] | x ₂ [1] | x ₀ [0] |
| $\hat{y}[2] =$ | x ₀ [2] | x ₁ [2] | x ₂ [2] | x ₀ [1] \oplus x ₁ [0] |
| $\hat{y}[3] =$ | x ₀ [3] | x ₁ [3] | x ₂ [3] | x ₀ [2] \oplus x ₁ [1] \oplus x ₂ [0] |
| $\hat{y}[4] =$ | x ₀ [4] | x ₁ [4] | x ₂ [4] | x ₀ [3] \oplus x ₁ [2] \oplus x ₂ [1] |

FIG. 4

| | | | | |
|------------------------------------|----------------|----------|----------|--|
| $\hat{y}[0] =$ | $x_0[0]$ | $x_1[0]$ | $x_2[0]$ | $ 0$ |
| $\hat{y}[1] =$ | $x_0[1]$ | $x_1[1]$ | $x_2[1]$ | $ x_0[0]$ |
| $\hat{y}[2] =$ | $x_0[2]$ | $x_1[2]$ | $x_2[2]$ | $ x_0[1] \oplus x_1[0]$ |
| $\hat{y}[3] =$ | $x_0[3]$ | $x_1[3]$ | $x_2[3]$ | $ x_0[2] \oplus x_1[1] \oplus x_2[0]$ |
| SYMBOL ERASED \rightarrow | $\hat{y}[4] =$ | $x_0[4]$ | $x_1[4]$ | $x_2[4]$ |
| DECODE $x_0[4]$ HERE \rightarrow | $\hat{y}[5] =$ | $x_0[5]$ | $x_1[5]$ | $x_2[5]$ |
| DECODE $x_1[4]$ HERE \rightarrow | $\hat{y}[6] =$ | $x_0[6]$ | $x_1[6]$ | $x_2[6]$ |
| DECODE $x_2[4]$ HERE \rightarrow | $\hat{y}[7] =$ | $x_0[7]$ | $x_1[7]$ | $x_2[7]$ |

FIG. 5

| | | | | |
|-------------------------------------|-----------------|-----------|-----------|--------------------------|
| $\hat{y}[0] =$ | $x_0[0]$ | $x_1[0]$ | $x_2[0]$ | $ 0$ |
| $\hat{y}[1] =$ | $x_0[1]$ | $x_1[1]$ | $x_2[1]$ | $ 0$ |
| $\hat{y}[2] =$ | $x_0[2]$ | $x_1[2]$ | $x_2[2]$ | $ x_0[0]$ |
| $\hat{y}[3] =$ | $x_0[3]$ | $x_1[3]$ | $x_2[3]$ | $ x_0[1]$ |
| $\hat{y}[4] =$ | $x_0[4]$ | $x_1[4]$ | $x_2[4]$ | $ x_0[2] \oplus x_1[0]$ |
| $\hat{y}[5] =$ | $x_0[5]$ | $x_1[5]$ | $x_2[5]$ | $ x_0[3] \oplus x_1[1]$ |
| SYMBOL ERASED \rightarrow | $\hat{y}[6] =$ | $x_0[6]$ | $x_1[6]$ | $x_2[6]$ |
| SYMBOL ERASED \rightarrow | $\hat{y}[7] =$ | $x_0[7]$ | $x_1[7]$ | $x_2[7]$ |
| RECOVER $x_0[6]$ HERE \rightarrow | $\hat{y}[8] =$ | $x_0[8]$ | $x_1[8]$ | $x_2[8]$ |
| RECOVER $x_0[7]$ HERE \rightarrow | $\hat{y}[9] =$ | $x_0[9]$ | $x_1[9]$ | $x_2[9]$ |
| RECOVER $x_1[6]$ HERE \rightarrow | $\hat{y}[10] =$ | $x_0[10]$ | $x_1[10]$ | $x_2[10]$ |
| RECOVER $x_1[7]$ HERE \rightarrow | $\hat{y}[11] =$ | $x_0[11]$ | $x_1[11]$ | $x_2[11]$ |
| RECOVER $x_2[6]$ HERE \rightarrow | $\hat{y}[12] =$ | $x_0[12]$ | $x_1[12]$ | $x_2[12]$ |
| RECOVER $x_2[7]$ HERE \rightarrow | $\hat{y}[13] =$ | $x_0[13]$ | $x_1[13]$ | $x_2[13]$ |

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FIG. 6

| | | | | | |
|---------------------------------|----------------|----------|----------|----------|---------------------------------------|
| | $\hat{y}[0] =$ | $x_0[0]$ | $x_1[0]$ | $x_2[0]$ | 0 |
| | $\hat{y}[1] =$ | $x_0[1]$ | $x_1[1]$ | $x_2[1]$ | $P\{x_0[0], 0, 0, 0\}$ |
| | $\hat{y}[2] =$ | $x_0[2]$ | $x_1[2]$ | $x_2[2]$ | $P\{x_0[1], x_0[0], 0, 0\}$ |
| SYMBOL ERASED → | $\hat{y}[3] =$ | $x_0[3]$ | $x_1[3]$ | $x_2[3]$ | $P\{x_0[2], x_0[1], x_1[0], x_2[0]\}$ |
| SYMBOL ERASED → | $\hat{y}[4] =$ | $x_0[4]$ | $x_1[4]$ | $x_2[4]$ | $P\{x_0[3], x_0[2], x_1[1], x_2[1]\}$ |
| RECOVER $x_0[3], x_0[4]$ HERE → | $\hat{y}[5] =$ | $x_0[5]$ | $x_1[5]$ | $x_2[5]$ | $P\{x_0[4], x_0[3], x_1[2], x_2[2]\}$ |
| RECOVER $x_1[3], x_2[3]$ HERE → | $\hat{y}[6] =$ | $x_0[6]$ | $x_1[6]$ | $x_2[6]$ | $P\{x_0[5], x_0[4], x_1[3], x_2[3]\}$ |
| RECOVER $x_1[4], x_2[4]$ HERE → | $\hat{y}[7] =$ | $x_0[7]$ | $x_1[7]$ | $x_2[7]$ | $P\{x_0[6], x_0[5], x_1[4], x_2[4]\}$ |

FIG. 7

| | | |
|------------------|----------|--------------------------------------|
| $\hat{y}[i] =$ | $x[i]$ | $x[i-3] \oplus x[i-4] \oplus x[i-5]$ |
| $\hat{y}[i+1] =$ | $x[i+1]$ | $x[i-2] \oplus x[i-3] \oplus x[i-4]$ |
| $\hat{y}[i+2] =$ | $x[i+2]$ | $x[i-1] \oplus x[i-2] \oplus x[i-3]$ |
| $\hat{y}[i+3] =$ | $x[i+3]$ | $x[i] \oplus x[i-1] \oplus x[i-2]$ |
| $\hat{y}[i+4] =$ | $x[i+4]$ | $x[i+1] \oplus x[i] \oplus x[i-1]$ |
| $\hat{y}[i+5] =$ | $x[i+5]$ | $x[i+2] \oplus x[i+1] \oplus x[i]$ |
| $\hat{y}[i+6] =$ | $x[i+6]$ | $x[i+3] \oplus x[i+2] \oplus x[i+1]$ |
| $\hat{y}[i+7] =$ | $x[i+7]$ | $x[i+4] \oplus x[i+3] \oplus x[i+2]$ |

FIG. 8

$$\begin{aligned}
 x[i-1] &= y_0[i-1] \\
 x[i] &= y_0[i] \\
 x[i+1] &= y_1[i+4] \oplus x[i] \oplus x[i-1] \\
 x[i+2] &= y_1[i+5] \oplus x[i+1] \oplus x[i] \\
 x[i+3] &= y_1[i+6] \oplus x[i+2] \oplus x[i+1]
 \end{aligned}$$

FIG. 9

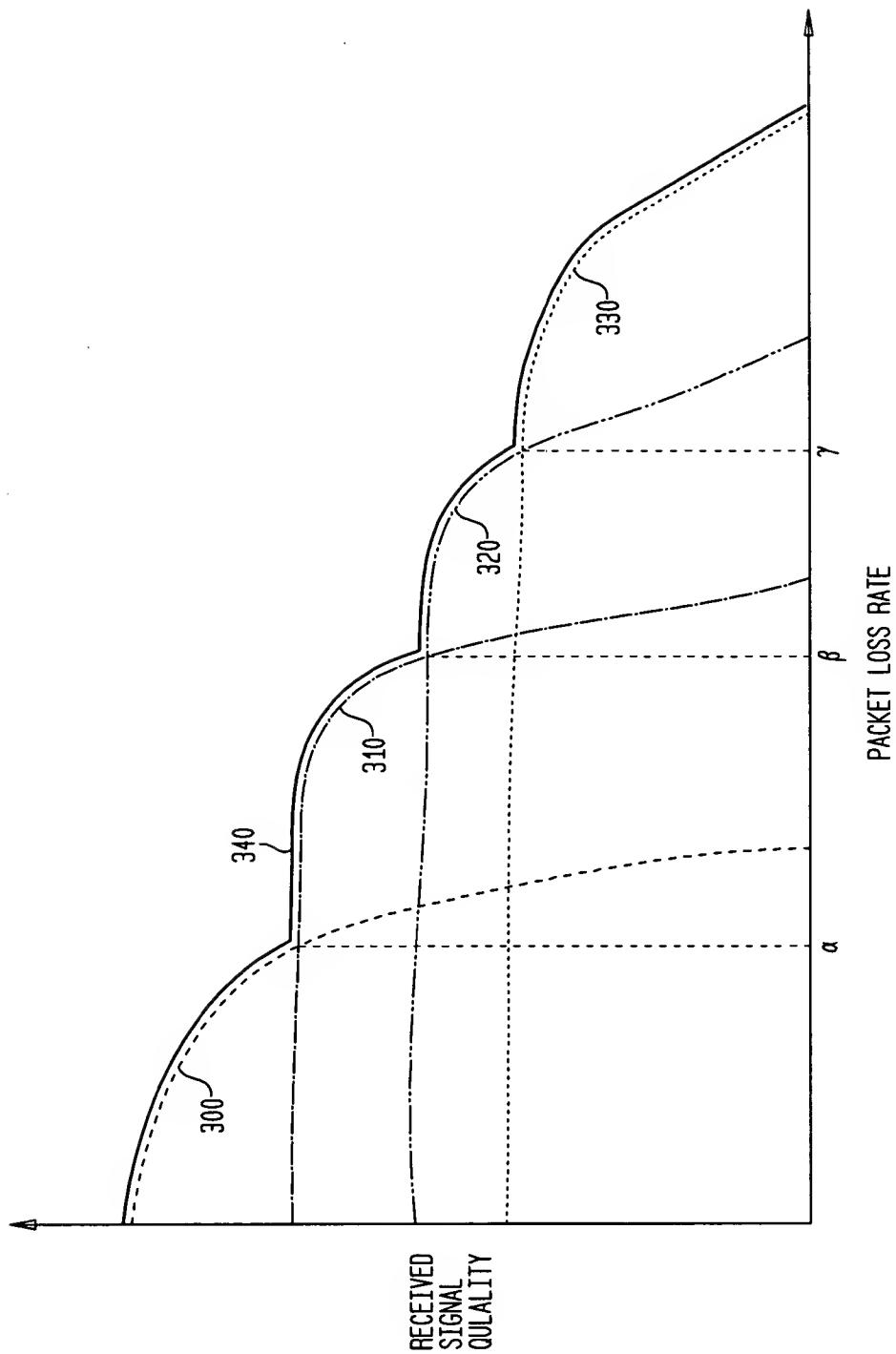


FIG. 10

